

# PATENT ABSTRACTS OF JAPAN

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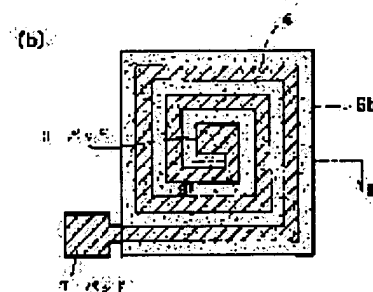
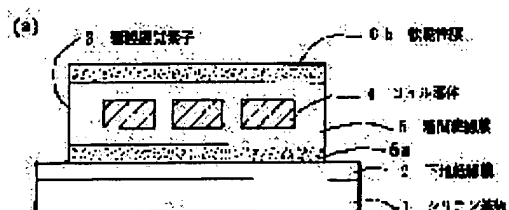
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## (54) THIN FILM MAGNETIC ELEMENT

### (57)Abstract:

**PURPOSE:** To improve the Q-value of a thin film magnetic element without being accompanied difficulty in the manufacture of the element by a method wherein the film thickness of a magnetic layer is specified and at the same time, the film thickness of a conductive metal layer and the frequency of a signal to be applied are specified.

**CONSTITUTION:** A silicon oxide film is formed on a silicon substrate 1 by a thermal oxidation and thereafter, a silicon nitride film is formed on the silicon oxide film by sputtering and a two-layer base insulating film 2 is formed. A soft magnetic layer 6a of a film thickness of 3 to 5 $\mu$ m is formed on the film 2 by sputtering. Then, a polyimide film is spin coated on the layer 6a, is calcined to form a lower layer insulating film 5 on the layer 6a and thereafter, an aluminium film or a copper film of a film thickness equal to a film thickness, which is 10 to 20 times thicker than that of the layer 6a, is formed on this film 5 and the frequency of a signal to be applied is set in 0.1 to 5 MHz. Moreover, a patterning is executed to form a coil conductor 4, a polyimide film is spin coated to cover the conductor 4, a flat layer insulating film 5 is formed, subsequently, a soft magnetic layer 6b of a film thickness of 3 to 5 $\mu$ m is formed by sputtering.



## LEGAL STATUS

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